UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
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QUALITY ASSURANCE MEMORANDUM FOR ORGANIC CHEMICAL ANALYSES

Date: April 19, 2016

To: Michelle Mullin
Office of Air Waste and Toxics, USEPA Region 10

From: Chris Pace, Chemist
Office of Environmental Assessment, USEPA Region 10 Laboratory

Subject: Quality Assurance Review for the PCB Aroclor Analysis of Samples from the Sky Valley Education Center PCB Inspection.

Project Code: OCE-009A
Account Code: 20162017B10P501E50

CC: Kendall Moore
USEPA Region 5

The following is a quality assurance review of the data for PCB Aroclor analysis of samples from the above referenced site. The analyses were performed by the EPA Region 10 Laboratory in Port Orchard, WA, following EPA and Laboratory guidelines.

This review was conducted for the following samples:

16124000	16124001	16124002	16124003	16124004	16124005
16124006	16124007	16124008	16124009	16124010	16124011
16124012	16124013				

Data Qualifications

Comments below refer to the quality control specifications outlined in the Laboratory's current Quality Assurance Manual, Standard Operating Procedures (SOPs) and the Quality Assurance Project Plan (QAPP). No excursions were required from the method Standard Operating Procedure.

The quality control measures which did not meet Laboratory/QAPP criteria are annotated in the title of each affected subsection with *"Laboratory/QAPP Criteria Could Not be Met"*.

For those tests for which the EPA Region 10 Laboratory has been accredited by The NELAC Institute (TNI), all requirements of the current TNI Standard have been met.

1. Sample Receipt

Upon sample receipt, no conditions were noted that would impact data quality.

2. Sample Holding Times

The concentration of an analyte in a sample or extract of a sample may increase or decrease over time depending on the nature of the analyte. There is no SW-846 recommended maximum holding time for samples from the day of collection until extraction for PCBs. Extracts have a holding time maximum of 40 days from the time of preparation. All samples were extracted and analyzed within these criteria.

3. Sample Preparation

Samples were prepared according to the SOP.

4. Initial Calibration/Continuing Calibration Verification (CCV)

Initial calibrations were performed on 4/4/16. Calibration curves met the coefficient of determination criteria.

The CCV met the criteria for frequency of analysis. The percent accuracies met the criteria of 80-120% of the true value for all reported results.

5. Blank Analysis

Method blanks were analyzed with each sample batch to evaluate the potential for laboratory contamination and effects on the sample results. Target analytes were not detected in method blanks.

6. Surrogate Spikes - *Laboratory/QAPP Criteria Could Not be Met*

Surrogate recoveries are used to help in the evaluation of laboratory performance on individual samples. The surrogate compound used for these analyses was tetrachlorometaxylene and decachlorobiphenyl (PCB congener 209). All surrogate recoveries were within the SOP criteria of 30-150% except for the following.

Decachlorobiphenyl in sample 16124003 could not be determined accurately due to chromatographic interference and was qualified not applicable, "NA". None of the sample results were qualified on this basis.

7. Matrix Spike

An MS/MSD was not performed on this sample set.

8. LCS/LCSD

Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD) are generated to provide information on the accuracy and precision of the analytical method and the laboratory performance. The LCS/LCSD recoveries met the SOP criteria of 70-130% with a relative percent difference $\leq$50%.

9. Compound Quantitation

The initial calibration functions were used for calculations. Reported quantitation limits were based on the initial calibration standards and sample size used for the analysis.

All manual integrations have been reviewed and found to comply with acceptable integration practices.

10. Identification

PCBs and the surrogates were identified based on chromatographic retention times of two dissimilar gas chromatography columns as determined from the initial calibration and pattern matching with standards.

11. Data Qualifiers

All requirements for data qualifiers from the preceding sections were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

The usefulness of qualified data should be treated according to the severity of the qualifier in light of the project's data quality objectives. Should questions arise regarding the data, contact Chris Pace at the Region 10 Laboratory, phone number (360) 871 - 8703.

Qualifier	Definition
U	The analyte was not detected at or above the reported value.
J	The identification of the analyte is acceptable; the reported value is an estimate.
UJ	The analyte was not detected at or above the reported value. The reported value is an estimate.
R	The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable. No value is reported with this qualification.
NA	Not Applicable, the parameter was not analyzed for, or there is no analytical result for this parameter. No value is reported with this qualification.